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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,803	03/28/2006	Florian Dotz	288248US0PCT	9379
22850 7590 06/07/2010 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER WILSON, MICHAEL H				
ART UNIT 1786		PAPER NUMBER		
NOTIFICATION DATE 06/07/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/573,803

**Applicant(s)**

DOTZ ET AL.

**Examiner**

MICHAEL WILSON

**Art Unit**

1786

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4 and 7-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 7-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action is in response to Applicant's amendment filed 16 March 2010, which amends claims 1 and 7.

Claims 1, 3, 4, and 7-21 are pending.

2. The Examiner withdrawn the objection to claims 1 and 7 are objected to because of informalities due to Applicants amending of the claims in the reply filed 16 March 2010.

3. Applicants overcame the rejection of claims 1, 3, 7-9, and 11-13 under 35 U.S.C. 102(b) as being anticipated by Kitamoto et al. (JP H10-189248 A), machine translation relied upon, by amending of the claims in the reply filed 16 March 2010.

4. Applicants overcame the rejection of claims 10 and 14-21 under 35 U.S.C. 103(a) as being unpatentable over Kitamoto et al. (JP H10-189248 A) as applied to claims 9 and 13 above and in view of Nishi et al. (US 2001/0004190 A1) by amending of the claims in the reply filed 16 March 2010.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, 3, 4 and 7-21 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for some embodiments of instant formula (I), does not reasonably provide enablement for all embodiments of instant formula (I). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Case law holds that applicant's specification must be "commensurately enabling [regarding the scope of the claims]" *Ex Parte Kung*, 17 USPQ2d 1545, 1547 (Bd. Pat. App. Inter. 1990). Otherwise **undue experimentation** would be involved in determining how to practice and use applicant's invention. The test for undue experimentation as to whether or not all compounds within the scope of claims 1, 3, 4 and 7-21 can be used as claimed and whether claims 1, 3, 4 and 7-21 meet the test is stated in *Ex parte Forman*, 230 USPQ 546, 547 (Bd. Pat. App. Inter. 1986) and *In re Wands*, 8 USPQ2d 1400, 1404 (Fed.Cir. 1988). Upon applying this test to claims 1, 3, 4 and 7-21, it is believed that undue experimentation **would** be required because:

(a) *The quantity of experimentation necessary* is **great** since claims 1, 3, 4 and 7-21 read on a wide variety fluoranthene compounds while the specification discloses only one compound within the scope of the present claims.

(b) There is **no direction or guidance presented** for fluoranthene compounds where X is a radical of instant formula (I') wherein n is 2 to 3 or an oligophenyl group of instant formula (IV) wherein n is 2 to 20.

(c) There is an ***absence of working examples*** concerning compounds where X is a radical of instant formula (I') wherein n is 2 to 3 or an oligophenyl group of instant formula (IV) wherein n is 2 to 20.

The claims are considered to be enabled for compounds of instant formula (I) wherein X is an alkyl radical and n is 2 or 3 and wherein X is an oligophenyl group of instant formula (IV) and n is 1. Instant formulae (I') and (IV) (with an n of 2 to 20) as defined in the present claims are bound to the fluorene fragment of instant formula (I) via a single bond shown in instant formulae (I') and (IV). It would be chemically impossible for n to be greater than one when X is instant formulae (I') or (IV) because a carbon-carbon single bond can not bind more than two carbon atoms together. The formulae as set forth in the claims do not have positions open for additional fluorene units to bond X. Therefore embodiments of instant formula (I) wherein X is a radical of instant formula (I') and n is 2 or 3 and wherein X is an oligophenyl group of instant formula (IV) and n is 2 to 20 are not considered to be enabled. In light of the above factors, it is seen that undue experimentation would be necessary to make and use the invention of claims 1, 3, 4 and 7-21.

***Allowable Subject Matter***

7. Claim 4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art, Kitamoto et al. (JP H10-189248 A), discloses similar fluoranthene compounds wherein X is an alkyl group with  $n = 1$ , however the reference does not teach or suggest  $n = 2$ . Hosokawa et al. (JP 2002/069044 A), Cho et al. (US 2005/0067955 A1), and Wu et al. (From branched hydrocarbon propellers to  $C_3$ -symmetric graphite disks.) each teach fluoranthene compounds wherein  $n$  is 2 or larger, however each reference fails to teach or suggest the linking group X may be an alkyl group.

### ***Response to Arguments***

9. Applicant's arguments see pages 9-14 of Remarks filed 16 March 2010, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made under 35 U.S.C. 112, first paragraph.

10. The Examiner notes that the embodiment of instant formula (I) wherein X is a radical of formula (I') and  $n$  is 1, is outside the scope of claims 1 and 7 as currently presented. This embodiment is illustrated in the specification on page 25 by the compound 9,9'-dimethyl-7,10,7',10'-tetraphenyl-[8,8']bifluoranthene and does not appear to be taught or suggested by the prior art. Additionally the embodiment of instant formula (I) wherein X is an oligophenyl group of general formula (IV) (where  $m^1$ ,  $m^3$  and  $m^5$  are each 0 and  $m^2$  and  $m^4$  are each 1, or where  $m^2$  and  $m^4$  are each 0 and  $m^1$ ,  $m^3$  and  $m^5$  are each 1) and  $n$  is 1 also does not appear to be taught or suggested by

the prior art. However it is unclear if the specification as originally filed is able to support amending "where X is an oligophenyl group, n is from 1 to 20" to "where X is an oligophenyl group, n is 1".

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL WILSON whose telephone number is (571) 270-3882. The examiner can normally be reached on Monday-Thursday, 7:30-5:00PM EST, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/

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Supervisory Patent Examiner, Art Unit 1786

MHW